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ABSTRACT

The American College Testing (ACT) scores of New Mexico public high school graduates who applied for admission to New Mexico State University in 1981 were analyzed to determine the relationship between ACT scores and school size. The schools were divided into 6 categories according to enrollment: less than 100 students (15 applicants), 100-199 students (77 applicants), 200-499 students (175 applicants), 500-999 students (982 applicants), 1,000-1,999 students (1,539 applicants), and over 2,000 students (658 applicants). Analysis was performed for English, Math, Social Science, Natural Science, and combination scores. The smallest schools had the highest ACT scores in every case except for English, where they were second to the largest schools. Schools with 200 to 499 students scored lowest on all tests. In addition to showing significant differences in ACT scores among schools of different sizes, the study indicated that students from the majority of rural schools are weak in those areas measured by the ACT. These findings have important implications for those agencies providing assistance to the public schools in the state. High schools enrolling 100 to 500 students are in greatest need of improvement. (JHZ)

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ACT SCORES OF INCOMING FRESHMEN TO NEW MEXICO STATE UNIVERSITY BY HIGH SCHOOL SIZE

October 1981

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There is much speculation in higher education that the smaller the schools the lower the ACT scores will be of those freshmen that are coming from those schools. This study looks at those students who graduated from high school in the Spring of 1981 and applied to New Mexico State University and is also limited to the public high schools from the state of New Mexico. From the data available, there is no way to determine how many of these students actually enrolled in New Mexico State University. The schools were divided into six categories: category one - those schools with less than 100 students of which 15 applied; category two - those schools with 100-199 students of which 77 applied; category three - those schools with 200-499 students of which 175 applied; category four - those schools having 500-999 of which 982 applied; category five - those schools from 1000-1999 of which 1,539 applied; category six - those schools with over 2000 students of which 658 applied. It is interesting to note that category six is primarily students from the city of Albuquerque. The analysis was done on each of the ACT scores of English, Math, Social Science, Natural Science as well as the combination score. Table I represents the data.

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In every case the very smallest school in category one and the very largest schools in category six were either first or second highest ACT scores. The only category that the very very small schools were second was in English. In Math, Social Science, Natural Science, and combination they had the highest scores. It is also worthwhile to note that in every case looking across all six categories, differences were significant at the 1% level of significance. There are a number of different possible explanations for the very small school having the highest scores. As only 15 students from the smallest schools applied to New Mexico State University, it is very likely that they were the very best. A rough estimate would be that there were approximately 350-400 graduates last year and 15 applications is a very small percentage so it is probably safe to assume that only the best applied to the larger universities. There is also the possibility that the students of the smaller schools due to individualized instruction, and other characteristics inherent to small schools, did receive a better education which enabled them to score higher on the ACT. At any rate, those students applying to New Mexico State University from the very small high schools in the state do have the highest ACT scores in every case except English in which they were second. In the state there are approximately 18-20 schools within that category.

The schools that scored consistently lower across all areas were those schools from 200-499 of which there were 175 applicants. The data show that there is uniformity across the different areas of the test. As mentioned before, the smallest schools in all but one case had the highest scores except in English where they ranked second. The schools

from 200-499 were last on all test scores. The second category of those students from schools of 100-199 were fifth in every case but one, that being Natural Science, where they were fourth. In category four those schools from 500-999 of which 482 students applied were fourth with the exception of Natural Science where they were fifth. This means that category five in those schools from 1000-1999 of which here are 1,539 are the largest number with the ACT scores being sent to New Mexico State University were third in all areas.

Those schools needing the greatest amount of assistance in order to upgrade their programs and develop higher ACT scores are in categories two and three - schools from 100-499 in student population. These schools are in predominately rural areas in the state but being large enough not to give the individualized instruction that you find in the extremely small school.

Caution should be taken, however, not to rule out special needs of the very small school - those of less than 100. A very small percentage of students graduating from those schools are sending in their applications. There is every indication to believe that these were the very top students that elected to apply to New Mexico State University. Care should also be taken not to group the categories two, three and four in one group. When tests of significance were ran between each of the categories, it was noted that between two and three and two and four the differences were significant.

This data does indicate that there are special problems in those schools having between 100-500 students, as this group indicated the lowest scores in all areas on the ACT test.

These findings have important implications for those agencies providing assistance to the public schools in the state. For greatest returns, the institution should concentrate their efforts on those high schools enrolling 100 to 500 students. Both State Departments of Education and Colleges of Education in the universities have a responsibility to provide services to these schools to upgrade their students in the basic competencies measured by the ACT scores. In the pre-service programs for teachers, the training should insure that teachers going to rural schools have a general background in the basic educational areas and are prepared to teach in more than two areas. The study indicates that students from the majority of rural schools are weak in those areas measured by the ACT.

TABLE 1

ACT MEAN SCORES OF APPLICANTS FROM
NEW MEXICO HIGH SCHOOLS BY SCHOOL SIZE

Category	Number of Students	English	Rank	Math	Rank	Social Science	Rank	Natural Science	Rank	Combination	Rank
I 1-99	15	16.933333	2	18.1333336	1	18.6666667	1	23.3333333	1	19.3333333	1
II 100-199	77	16.1948052	5	14.7402597	5	14.6623377	5	19.6623377	4	16.4415584	5
III 200-499	175	15.3005780	6	13.8092486	6	14.1445087	6	18.6358382	6	15.6685714	6
iV 500-999	982	16.2761506	4	15.5439331	4	15.3514644	4	20.0000000	5	16.9128631	4
V 1,000-1,999	1539	16.3742690	3	15.7537362	3	15.7420403	3	20.0695257	3	17.1484122	3
VI 2,000+	658	17.8297872	1	17.2568389	2	17.4300912	2	21.4908815	2	18.6358118	2
TOTAL	2946										
F VALUE		9.08**		7.62**		9.15**		7.80**		10.44**	

**Significant at 1% level